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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,677	06/11/2001	Jeff Hsieh	PHN 17,803	2022
24737	7590	08/29/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			TRAN, NHAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,677

Applicant(s)

HSIEH ET AL.

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Europe on 12/10/1999. A claim for priority under 35 U.S.C. 119(a)-(d) **cannot** be based on said application since the United States application was filed *more than twelve months* thereafter.

It is also noted that applicant has not filed a certified copy of the European application No. 99204181.4 as required by 35 U.S.C. 119(b).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 6/11/2001 in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. The disclosure is objected to because the specification does not contain the following headings: Background of the Invention, Summary of the Invention, Brief Description of the Several Views of the Drawing(s), Detailed Description of the Invention. Appropriate correction is required.

See the following guidelines for the content of specification.

Content of Specification

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- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

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- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual

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Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

4. **The title of the invention is not descriptive.** A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-9 are rejected under 35 U.S.C. 102(a) as being anticipated by Hsieh et al (Transpose Memory for Video Rate JPEG Compression on Highly Parallel Single-Chip Digital CMOS imager, IEEE Proceedings, September 10-13, 2000).

Regarding claim 1, Hsieh discloses a parallel data processing device comprising:
an array of parallel processing elements (PE1-PE320 or Xetal processor array shown in Fig. 1) for processing a signal to obtain a parallel streams of data (see section 1 for Introduction and section 2 for Overview of Integrated Architecture);
means (TSMM1-TSMM80) for shuffling (by virtue of crossbar switches) the parallel streams of data in a block-wise manner (see Fig. 2, section 3 for TSMM architecture).

Regarding claim 2, Hsieh also discloses that the data shuffling means (TSMM1-TSMM80) comprise an array of addressable switch memory matrices (4x4 16-bit registers as shown in Fig. 2) which are coupled to a predetermined number of processing elements (PE1-PE320). See section 3 for TSMM architecture.

Regarding claim 3, Hsieh further discloses that each switch memory matrix (4x4 16-bit matrix) comprises: a matrix of registers (10b); and a crossbar switch having a row-wise buses and column-wise buses being provided with switches (Fig. 2), each register (10b) coupled to one row-wise bus and one column-wise bus of the crossbar switch, each column bus coupled to a processing element (PE1-PE320). See section 3 for TSMM architecture.

Regarding claim 4, Hsieh clearly discloses that each switch memory matrix is a square matrix (a 4x4 matrix) described in section 3 for TSMM architecture.

Regarding claim 5, since two TSMMs are linked together as shown in Fig. 1, they are coupled as two by two to each other.

Regarding claim 6, also disclosed by Hsieh is that the processing element (PE1-PE 320) comprises an accumulator, the accumulators of the predetermined number of processing elements being selectively addressable (see Fig. 1 and section 2 for overview of integrated architecture).

Regarding claim 7, see the analysis of claim 1. Furthermore, Hsieh also discloses a digital CMOS camera comprises a sensor array (CMOS sensor array shown in Fig. 1) utilizing the data processing in claim 1. See sections 1 & 2 for introduction and overview of integrated architecture.

Regarding claim 8, it is clear that the CMOS sensor array is provided with color filters RGB in Bayer pattern (see Abstract and Table 1), and a number of columns of the sensor array corresponding to different colors are shared a same processing element (two columns share one PE or 640 columns share 320 PEs). See section 2 for overview of integrated architecture.

Regarding claim 9, see the analysis of claim 1.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.



DAVID L. OMETZ
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EXAMINER